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Who Do You Think You Are? Common and Differential Effects of Social Self-Identity on Social Media Usage

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ABSTRACT: Intense competition requires that social media service providers execute two major business strategies: exploiting current functions while simultaneously exploring incremental innovation. Realization of these strategies is related to two

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types of member behavior: reinforced use and varied use. Drawing on identity theories, we examine the common and differential effects of two levels of social self-identity—relational identity and social identity—on reinforced and varied use and the moderating role of inertia on their effects on social media usage. Our results reveal that, although both identities have similar effects on usage behavior, users with higher social identities are more oriented toward variety seeking, while those with stronger relational identities are more oriented toward reinforcement. Inertia negatively moderates the impacts of social identity on social media use, but not the relationships between relational identity and social media use. The current research contributes to theory by decomposing social media usage into reinforced and varied use and reveals the common and differential influences of two levels of social self-identity on user behavior. Social media service providers should focus more on social identity to promote varied use and focus more on relational identity when they want to enhance reinforced use.

KEY WORDS AND PHRASES: reinforced use, relational identity, self-identity, social identity, social media, social media use, varied use.

In recent years, social media such as interest communities and social networking platforms have emerged as a tool to bring together individuals with similar interests and foster intimate relationships through sustained interactions. In order to achieve long-term success, social media service providers are confronted with the need to execute two major business strategies that enable users to exploit current functions while simultaneously exploring incremental innovation [4]. Realization of these two strategies is related to members' reinforced use and varied use. Reinforced use (RIF) refers to the use of social media in repetitive and enhanced ways, whereas varied use (VRD) refers to applying various new features or using social media in novel ways. For example, a social media user can engage in reinforced use by using specific functions in a similar way on a daily basis (e.g., routinely reading messages shared by other members); the user can also engage in varied use by either using these features in a novel way (e.g., using the gifting feature for person-to-person payments or launching a social commerce business to sell products to those in one's social network) or exploring new features (e.g., using new functions that the user never experienced before such as video chatting or adopting newly introduced features). These two behavioral outcomes correspond to consumers' reinforcement and variety-seeking orientations [15, 58, 78]. Reinforced use and varied use have been shown to create significant advantages when they coexist in various organizational and consumer behavior contexts [7, 15, 38]. However, the extant information systems (IS) literature about IS usage in terms of variety seeking is limited [2, 25]. Reinforced use and varied use are two qualitatively different behaviors that can coexist in social media. For example, reinforced use would help business exploitation by integrating current IS functions into users' daily lives and lead to more website traffic, while varied use would help business exploration by spreading new features with incremental innovation, promoting users' cocreated innovations, and

acquiring more value from users. The study of both usage behaviors would assist service providers in establishing and maintaining long-term relationships with their users and enhance competitive advantage.

Because participation in social media always involves some forms of social interaction and communication [27, 131], social media users' decision to participate depends not only on personal factors but also on their conceptions of themselves that originate from other members within the social media site [95]. We use the concept of social self-identity to examine how a social media user may perceive herself at two different levels: a collective-level identity that views the self as a member of a social group and a relational-level identity that views the self from the perspective of interpersonal relationships [21, 35]. We operationalize the former as social identity formed by a common purpose, topic or interest and the latter as relational identity formed by feeling socially or emotionally attached to particular members. Although the two identities differ in their foci and motivation bases (relationship versus group) [21], researchers recommended that they be applied together in studies of common and differential individual behavior [106]. Considering the different ways that relational identity and social identity influence behaviors enables us to assess their relative importance in predicting reinforced and varied use behaviors in social media [35].

Previous research indicates that the influence of social factors on individual behaviors are interdependent with individual factors [39]. To further understand the common and differential influences of social self-identity on social media usage, uncovering individual factors that serve as moderators can reveal important differences across individuals. The present study identifies inertia as an important individual factor and examines whether it accentuates or reduces the impacts of social self-identity on different social media usage behaviors.

The current research has the following results and contributions. First, we decompose social media usage into two behaviors and distinguish between reinforced use and varied use in terms of their reinforcement or variety-seeking orientation [15, 58, 78]. Second, drawing on identity theories, we operationalize social identity and relational identity as collective and relational social self-identity, and investigate the common and differential influences of these two levels of social self-identity on user behavior in social media. Third, we reveal the moderating roles of an individual factor (i.e., inertia) on the relationships between social self-identity and social media use.

Literature Review

Reinforced Use and Varied Use

The exploration (of uncharted territory)—exploitation (of current choice) dilemma is one of the most basic trade-offs in nature. Researchers in diverse disciplines such as management [80, 92], psychology [44], biological science [33], computer science [8], and neuroscience [65] have examined this dilemma. Exploration includes

"things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, and innovation," whereas exploitation includes "such things as refinement, choice, production, efficiency, selection, implementation, execution" [72, p. 71].

In marketing, researchers have differentiated two closely related concepts—reinforcement versus variety-seeking orientation to explain consumers' product choice behaviors [78]. Reinforcement refers to individuals' repeated purchases in their choices of service or goods [58]. It is a tendency to repeat the stimulus, thereby increasing its familiarity [15], whereas variety seeking is individuals' tendency to seek variety in their selections of services or goods [57]. It is an increasing tendency to look for other stimuli that are less familiar, to pursue inherent satisfaction of "novelty," "unexpectedness," "change," and "complexity" [15, 58, 78]. Variety-seeking orientation has two types: diversity (rotating choices among new products and brands) [63] and innovativeness (using products in new or novel ways) [51, 127]. Moreover, achieving a good experience by the consumers is often contingent on a company's ability to satisfy the reinforcement and variety-seeking orientations simultaneously [15, 58]. Variety-seeking and reinforcement orientations are used to explain consumer behavior such as brand switching, product usage, and promotional preferences [15, 59, 94].

Drawing on the exploration–exploitation literature and the extant marketing research on consumers' reinforcement versus variety-seeking orientations, IS researchers have examined individuals' reinforcement- and variety-seeking-oriented IS usage behavior [55, 67, 100], as summarized in Table 1. Though different concepts have been proposed, the literature on reinforcement-oriented IS use emphasizes system use that is incorporated into one's daily life (*routine use*), repetitive (*regular use*), and efficient through refinement over time (*efficient use*). Similarly, research on variety-seeking-oriented IS usage behavior focuses on concepts such as using additional system features (*extended use*), exploring new system use (*innovative use*), or a combination of the two (*synthesized perspective*). An individual can exhibit both behaviors either in sequence or in parallel [34, 100], and such behavior enables firms to simultaneously address exploitation and exploration and obtain superior performance [98].

Based on the reinforcement versus variety-seeking distinction and synthesizing prior IS literature, we define *reinforced use* as a community member's use of specific features of a social media site in an enhanced and repetitive manner. Reinforced use has three unique characteristics identified in Table 1, including routine use, regular use, and efficient use. Such reinforced use of social media helps community members develop familiarity with the online community, thereby facilitating the integration of the online community into members' lives. *Varied use*, as a form of feature-level variety-seeking behavior, describes community members' use of a social media site through diverse features or in a novel way. In the postadoption stage, through accumulated experiences with the social media, community members may not be satisfied by the stimulation brought by current features, and thereby seek out new stimuli. Such variety seeking helps community members to increase their

Table 1. Summary of Related IS Literature on Reinforced and Varied Use

Concept	Similar concepts	Definition	Reference
Reinforced use	Routine use	Routine IS use that is part of the daily life.	Bhattacherjee [17], Li et al. [67], Saga and Zmud [100], Schwarz [102], and Sundaram et al. [115].
	Regular use	Repetitive IS use that follows similar behavioral patterns.	de Guinea and Markus [45], Kim et al. [64], Ma et al. [70], and Saga and Zmud [100].
	Efficient use	IS use that has become efficient at completing specific tasks.	Burton-Jones and Straub [25], Burton-Jones and Grange [24] and de Guinea and Markus [45]
Varied use	Extended use	Using more system features to support one's tasks.	Hsieh et al. [53], Hsieh and Wang [52], Saeed and Abdinnour-Helm [99], and Saga and Zmud [100]
	Innovative use	The extent to which users explore an IS and discover its new use.	Ahuja and Thatcher [2], Gupta and Karahanna [46], Hong et al. [49], Jasperson et al. [55], Ke et al. [61], Li and Hsieh [66], Maruping and Magni [76], Nambisan et al. [81], Saeed and Abdinnour-Helm [99], Saga and Zmud [100], Wang et al. [129], and Wang et al. [128]
	Synthesized perspective	Search for new uses of an IS either by using additional features or by finding new ways to use basic features.	Bagayogo et al. [10], Karahanna and Agarwal [60], Magni et al. [71], Maruping and Magni [77], Mills and Chin [79], and Sun [114]

level of arousal (attentiveness) and acquire more value. Given our emphasis on variety-seeking orientation, which consists of diversity and innovativeness in social media, we focus on community members' varied use through both extended and innovative use (i.e., the synthesized perspective).

Social media service providers should simultaneously encourage community members' reinforced use and varied use in order to achieve both exploitation and exploration business strategies. Reinforced use captures the idea behind exploitation because members' cognition is anchored and refined with respect to repetitive ways of using the social media site. Attempts at varied use are similar to exploration, which involves more learning and requires members to expand their insights about the potential of the site.

Reinforced use and varied use describe two qualitatively different postadoption IS usage behaviors performed by a community member and are distinct from intention to use a technology. Intention to use reflects a user's willingness to use a technology. In contrast, reinforced use reflects a user's conscious or subconscious activities to repeatedly use the specific features, and varied use reflects a user's conscious activities to actively survey the various features of the technology or use it in novel ways.

Social Self-Identity: Social Identity and Relational Identity

In psychology, self-identity is defined as a cognitive construct of the self that answers the question "who am I?" [48]. Self-identity focuses on characteristics of an individual that separate her from others. Social categories such as groups, relationships, and personal characteristics could become part of self-identity to the extent that people use them to define themselves [26]. The self can be broadly classified into two types: an individual self-identity that emphasizes autonomy and distinguishes oneself from others, and a social self-identity that refers to the categorizations of the self that reflect assimilation to more inclusive social units (interpersonal relationships or collective ones) [56]. In a social environment where other social targets exist (such as online communities and social media), social self-identity is more significant when people define themselves relative to others [21]. Thus, we focus on social self-identity in the current research on social media usage.

Social self-identity can be represented at two different levels: collective and relational [132]. At the collective level, social identity originated from social identity theory in psychology [50] and focuses on how identity arises from viewing the self as a member of a collective group or social category [118]. Individuals apply the shared characteristics of the group (e.g., demographic, occupations, culture, and organizational membership) to categorize themselves as group members through a depersonalization process, and place greater value on group-level features and properties [112, 117]. For example, individuals may have social identities related to being parents or members of their profession. At the relational level, relational identity refers to the case when people develop role relationships with individual others and emphasizes the self in interpersonal relationships [22, 106]. For example, individuals classify themselves based on their role relationships with relevant others (e.g., parent–child, doctor–patient), such as "I am a friend of Jenney's" [21]. Identity theories explain how the networks of relationships in which individuals are situated affect their roles or relationships, and subsequently, their thinking and actions, relative to others [106]. The two levels of social self-identity can exist simultaneously within the same individual, available to be activated at different times or in different contexts [6, 14, 21, 107]. For example, an individual can self-identify as both an Association of IS (AIS) member (social identity) and a coauthor of another individual AIS member (relational identity). The individual may introduce him or herself with either identity based on the social context.

Previous research on social self-identity indicates that it is related to a wide variety of cognitive, emotional, motivational, and social processes [36]. For example, in online communities, social identity and relational identity potentially have similar effects on cohesion, commitment, and positive evaluation toward the group [97]. However, changes in levels of self-categorization indicate differences in both perceptions of the self and worldviews such as values, goals, and norms [21]. Prior research has also found that social identity and relational identity have differential influences on social loafing, group norms, response to newcomers, and reciprocity in online community [97]. There are common and differential effects of identity-based and bond-based attachments on individual members' behaviors in online communities [96].

Both social identity and relational identity examine the social aspect of the self, but the two theories speculate different processes through which identity forms, have different foci and motivation bases (relationship versus group) [132], and have different impacts on individual behaviors with the former based on group membership and joint norms and values and the latter examining behaviors based on relationships [21, 56]. Researchers recommend the simultaneous investigation of both identities to explain individual behaviors [106]. We study these two types of social self-identity—social identity and relational identity—as they capture the interactive nature of social media that facilitates relationship building. On a social media site, members may feel connected to a specific group based on the social identity formed as a group or community with a common purpose, topic, or interest [121]. In contrast, relational identity focuses on members' perceived social or emotional connections to particular members on the site [85, 96]. Social and relational identities may coexist where an individual is connected to specific groups and to individual users simultaneously [96].

Previous research indicates that the identity perspective is appropriate for explaining individual behaviors in social media. For example, social identity has significant impacts on the we-intention to use an online social networking site [28], the we-intention to use social media [105], contribution behavior [121], knowledge exchange [130], participation we-intentions [12], citizenship behavior [31], and participation behavior [122]. However, few studies have investigated relational identity or both identities together and compared their influences on different individual behaviors. Considering the different ways that social identity and relational identity influence behaviors enables us to assess their relative importance in predicting different IS usage behaviors [35]. Our study addresses this gap in the IS literature and examines the relationships between relational and social identities and social media usage behavior within (rather than across) individuals.

Inertia

Using individual factors as moderators allows researchers to explain contradictory results and enhance the explanatory power of individual behavior models as the

moderators allow us to examine the behavior of interest more holistically [125]. To better understand the relationships between social self-identity and reinforced use and varied use, we identify members' inertia, one of the most relevant individual factors for understanding IS use [90], as a plausible moderator.

Inertia at the individual level has received little attention in IS research [62, 90]. It focuses on users' tendency, orientation, and bias to maintain the status quo and their resistance to change to conserve mental resources and mental energy. Recently, IS researchers introduced inertia as a "mooring factor" that has a negative effect on the perceived benefits and use of a new system [90]. However, there is limited theoretical and empirical research regarding the relationship between inertia and focal IS behaviors, including the two postadoption IS usage behaviors we focus on in this research.

We consider inertia an important construct in our research context because: (1) there are strong associations between inertia and variety-seeking and reinforcement orientations. In prior marketing studies, it is assumed that an inertial consumer who is satisfied at consuming a product or minimizes the cost of thinking would derive a high utility from making habitual purchases (reinforcement), but would have low utility for variety (variety seeking) [15, 30]; and (2) inertia may reinforce or discount the views of others (e.g., social identity) in making a decision on using IS [90, 120]. Therefore, following Polites and Karahanna [90], we define inertia as a strong attachment to and persistence of existing behavioral patterns when using a social media site (i.e., maintaining the status quo). Inertia characterizes individuals' tendency, orientation, and bias to maintain the status quo during the technology use processes and might change the influences of social self-identities on reinforced use and varied use.

Inertia is a multidimensional concept with cognitive, affective, and behavioral components [90]. Cognitive-based inertia implies that an individual consciously continues to make similar decisions even though she knows it might not necessarily be the best, the most efficient, or the most effective way of doing things [62]. Affective-based inertia exists when an individual continues using a system because he enjoys it, feels stressful to change, or because it would be comfortable to do so [103]. Behavior-based inertia implies that system use continues because it is what the user has been doing. This may or may not indicate the presence of a genuine subconscious habit.

Conceptual Model and Hypotheses

Figure 1 summarizes the research model. Although both social identity and relational identity could be important for IS use [96], social psychology researchers have suggested that as the two identities differ significantly, their effects may also vary significantly depending on the focal behavior and the context. Drawing on the identity theories, we examine how social self-identity (i.e., social identity and relational identity) similarly and differently affect members' usage behavior in social

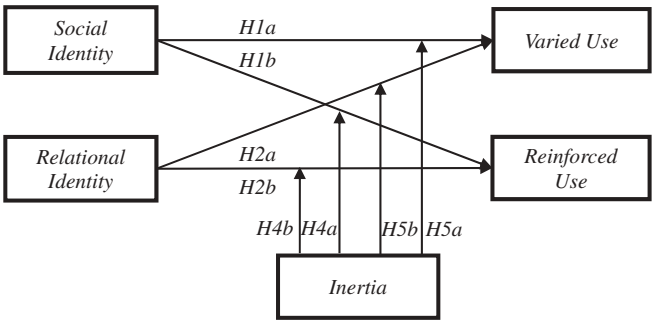

Figure 1. Research Model and Hypotheses

media (i.e., reinforced use and varied use), and develop our logic for inertia moderating social self-identity's influences on reinforced use and varied use.

Common Effects of Social Self-Identity

Social Identity and IS Usage

Social identity captures the main aspects of a member's identification with her social groups on a social media site. Several studies have suggested that social identity is defined in terms of valued groups involving cognitive, affective, and evaluative components and encourages behavior that reinforces identity maintenance [12]. Cognitively, an individual with a higher social identity tends to cognitively categorize him or herself as a member of the community that emphasizes one's perceived similarities with other members. Affective social identity refers to a sense of emotional involvement and belongingness with the community, which may be labeled as affective commitment to the community. Social identity also has an evaluative component that involves the assessment of self-worth derivative of the membership in the community [11, 20].

In the postadoption stage in social media, social identity prescribes and instigates community-oriented behaviors to maintain the social identity in the community. As reinforced use leads to familiarity with specific functions of a social media site and varied use leads to the discovery of a social media site's new use, both of these community-oriented behaviors enable members' social identity verification. To attain better social interactions and communications with other members as well as to maintain members' positive social identity formed in social media, those with high social identity may partake more in both varied use and reinforced use. Prior IS research also suggests a direct relationship between social identity and IS usage behavior such as participation [12] and community engagement [9]. Therefore, we hypothesize:

Hypothesis 1a: Social identity is positively related to varied use in social media.

Hypothesis 1b: Social identity is positively related to reinforced use in social media.

Relational Identity and IS Usage

Relational identity captures the main aspects of a member's identification with developed interpersonal relationships with individual members in social media. Relational identity may cause members to develop personal dedication or affective commitment to individual relationships with one another, increase their willingness to maintain and preserve relational identity, and engage in actions that further enhance relational identity [97]. In the postadoption stage, an individual is able to build, maintain, and strengthen mutually trustful, respectful, and friendly relationships with peers using system features provided by social media [20]. Hence, community members with high relational identity would engage in both reinforced use of specific functions and discovery of new ways of system use to assist better communication, socialization, and interaction with other members. Prior literature suggests that social relationships with high trust or social interaction ties are positively related to IS usage behavior such as continued use [16, 69] and participation [96]. Therefore, we hypothesize:

Hypothesis 2a: Relational identity is positively related to varied use in social media.

Hypothesis 2b: Relational identity is positively related to reinforced use in social media.

Differential Effects of Social Self-Identity

Although social identity and relational identity can both influence reinforced use and varied use in social media, the extents of their influences can differ. To further develop our understanding of how these identities differentially influence the two postadoption IS usage behaviors, we next theorize comparative hypotheses on the differential effects of the two identities on varied use and reinforced use.

As discussed earlier, social identity and relational identity are associated with different foci and unique motivational bases [21]. At the collective level (i.e., social identity), self-definitions are derived from group membership [119]. Hence, individuals will be motivated to internalize the values and norms of their group, successfully fulfill their social roles and responsibilities, and contribute to the group's well-being. At the relational level (i.e., relational identity), people define themselves based on personal connections with specific others who share similar interests, values, or beliefs. They will be motivated to express their individuality by fulfilling the role expectations based on their personal relationships and to perform actions that benefit their partners [132].

The identity-based motivation model proposes that people are motivated to act in ways that make sense of the world using procedures congruent with their identities [86]. To verify different identity types, people actively engage in identity verification activities to create different social environments that reinforce their different identities [116]. In the context of social media, individuals interact with other members by using multiple system features. System features are similar across different people, but their usage facilitates identity verification that may differ among people with different social motivations and in different social environments [41]. It implies a range of possibilities for how individuals will actively and selectively interact with an IS to strengthen their verification with different social targets that they view as integral to the self [26]. Therefore, it is plausible that individuals may wish to express social and relational selves through differential ways of using the same technology in the postadoption stage. Extending this logic, we theorize the comparative impacts of social identity and relational identity on members' postadoption behaviors.

Comparative Impacts of Social Self-Identity on Varied Use

We first theorize that, relative to relational identity, social identity has a stronger impact on individual choice and behavioral intention for variety seeking (i.e., diversity and innovativeness). As elaborated earlier, members' relational identity can contribute to varied use. However, the literature also suggests a contrary viewpoint that relational identity can direct members away from varied use. According to identity theories, relational identity causes members to focus on individual relationships with one another [96], exert effort to engage in long conversations [97], and fulfill the role expectations implied by their dyadic relationships [21]. Following this logic, social media users who are motivated to identify themselves with other individual members may put in more effort in communicating with other individual members and feel a low motivation to use social media in novel ways or seek diverse new features.

Compared with relational identity, social identity represents a social media user's identification with larger groups or communities rather than a few selective individual members. Hence, social identity enables social media users to spread their identification toward the community as a whole [54, 104]. There is also similar diffusion in organizational settings where, for example, identification with a team generalizes to organization identification and vice versa [5]. Based on this reasoning, such community-oriented identification can lead to community-oriented behaviors to maintain the identity within the online community, thus resulting in a higher motivation to be fully engaged in the online community [96], explore novel ways of using the social media site, and engage in diverse use behaviors, such as exploring previously unused features of the social media site. Hence, although social identity promotes varied use in a straightforward manner, relational identity may direct members away from varied use, making social identity a stronger driver of members' varied use of social media. Thus, we hypothesize:

Hypothesis 3a: The relationship between social identity and varied use is stronger than that between relational identity and varied use in social media.

Comparative Impacts of Social Self-Identity on Reinforced Use

Next, we theorize that, relative to social identity, relational identity has a stronger impact on individual choice and behavioral intention for reinforcement.

Relational identity can positively impact reinforced use because it involves a relational investment (e.g., time, effort, and emotions) in developing and maintaining the relationship [23]. This close social relationship leads to a constraint-based relationship by enhancing one's dependence on a relationship partner [108], which has costs and causes affective losses (e.g., psychological or emotional discomfort) if these bonds are weakened. Most these relationship-specific investments can be weakened if users leave or reduce their use of the online community because these relationships are primarily specific to the focal social media. To avoid losing these interpersonal bonds, users will have a strong motivation to use familiar features to communicate with others in social media. Thus, relational identity can effectively drive reinforced use.

Different from relational identity, social identity forms based on identification with a specific group or community with a common background, purpose, topic, or interest on a social media site [121]. Because social identity derives from the categorization in larger, less personal social groups, it entails a more depersonalized sense of the self and the perception of self as an interchangeable exemplar in the social category [123]. Meanwhile, new members with common personal characteristics are welcomed by other group members [97]. Hence, compared with relational identity, social identity requires a lower social investment in developing and maintaining the social identity, which leads to less constraint-based relationships with the focal groups or social media. A user might have a lower motivation to use familiar features to communicate with other group members to develop or maintain her social identity in social media.

In conclusion, because relational identity is associated with a narrower focus on relationship maintenance with individual members and may incentivize a social media user to pay more attention to familiar features to maintain such personal relationships, it is a stronger driver of reinforced use than social identity. Therefore, we propose:

Hypothesis 3b: The relationship between relational identity and reinforced use is stronger than that between social identity and reinforced use in social media.

Moderation Effects of Inertia

Individual-level inertia may either positively or negatively moderate the relationships between social self-identity and reinforced use for two reasons. First, the impacts of social identity and relational identity on reinforced use may *strengthen*

in the presence of high inertia. Self-schema theory argues that the core self, which comprises our self-schemas: "knowledge structures developed by individuals to understand and explain their own social experiences," [74] enhances information-processing in a way that individuals quickly take in congruent information and discard incongruent information [75]. On a social media site, individual members may build relational and identity schema because people develop cognitive representations of rules and patterns in interpersonal relatedness and groups [13, 113]. Inert users are not motivated to thoroughly consider all alternatives and will not carefully analyze and critically evaluate IS features themselves. As a result, their intention to use the IS features and to break out of the inert state will depend on their current interaction patterns with relevant groups or individual others in their social environment.

Second, the impacts of social identity and relational identity on reinforced use may *weaken* in the presence of high inertia. According to self-categorization theory, the self-concept, or one's current self-category, is conceived as a context-dependent cognitive representation [124]. In social media, cognitive shifts between relational and social levels of the self are triggered by different situational cues such as names, rewards, uniforms, and saying "we" instead of "you" [21, 96]. Although an inert individual would still perceive his or her social and relational identities to be important for reinforced use, s/he will be less likely to respond to situational cues by actually expressing intentions to use social media. It may be too stressful or emotionally taxing to change for inert individuals. Thus, they may discount the situational cues in social environments while making a decision on whether to continue using the same features.

Self-schema theory and self-categorization theory support both positive and negative moderating effects of inertia. No prior research empirically tests the moderating effects of inertia on the relationship between social self-identity and IS use. Although self-schema theory considers self-schemas as stable self-representations that are relatively unresponsive to changes in one's social circumstances, self-schemas also work based on the activation of the working self-concept [75]. This indicates a common tenet between self-schema theory and self-categorization theory that the activation of a particular self-concept is closely embedded in the prevailing social context and circumstances [84]. Because the volume and variety of members' information processing needs decrease when they are inert, their perceptions and usage behaviors might rely more on their past behavior than on their current considerations [90]. Thus, they may make usage assessments by overlooking considerations about information of the social context and circumstances that might activate a particular social self-identity and rationalize continuance in the status quo. Therefore, we expect social self-identities to play a less instrumental role in predicting reinforced use of the features of the system in the presence of high inertia. Therefore, we hypothesize:

> *Hypothesis 4a. Inertia negatively moderates the impact of social identity on reinforced use.*

Hypothesis 4b. Inertia negatively moderates the impact of relational identity on reinforced use.

Individual-level inertia may negatively moderate the relationships between social self-identity and varied use. In social media, although inert individuals would recognize the benefits of new features or new ways of using the existing features in maintaining their friendship and group membership, they will likely lack the motivation to consider social and relational identities by expressing intentions to use the features. They are likely to reduce varied use because inert individuals are not concerned with whether the current features they use represent the most efficient or effective way of system usage (cognitive-based inertia), because this is what they have always done in the past (behavior-based inertia), or because inert individuals will be comfortable with the status quo and seek to avoid the stress associated with change (affective-based inertia). As such, we expect inertia to negatively moderate the relationships between social self-identities regarding new feature usage and novel ways of using existing IS features, such that the relationships will be weaker or suppressed in the presence of inertia. Therefore, we hypothesize:

Hypothesis 5a. Inertia negatively moderates the impact of social identity on varied use.

Hypothesis 5b. Inertia negatively moderates the impact of relational identity on varied use.

Control Variables

In addition to the above-mentioned constructs, we also include widely used control variables in technology acceptance research inducing gender (GEN), age (AGE), occupation (JOB), education (EDU) [1], length of experience in using social media (EXP) [126], frequency of use (FRE) [126], and relationship status (STS) [82].

Research Method

Data Collection

Users of WeChat were selected as the subjects of this study. Launched in January 2011, WeChat (www.wechat.com) is one of the largest mobile social networking services in China with 549 million monthly active users in May 2015 [110]. Users of this mobile social networking service were recruited between October and November 2015 to fill out the survey and win monetary rewards afterward. We provided a hyperlink to the survey web page in WeChat, and the respondents were directed to the online questionnaire when they clicked on the hyperlink. In the introduction to the survey, we reminded the respondents that all mention of "communities" in the questionnaire referred to "online social media communities." After

scrutinizing the responses, we eliminated those with the same answer to all questions, those with no experience with either type of communities, and those who finished the survey in less than five minutes. We were left with 703 valid responses. We examined nonresponse bias by comparing the means of all variables and demographics for early and late respondents. No significant differences were found, indicating that nonresponse bias was not present in our study. Table 2 summarizes the sample demographics. About 43.5 percent of the respondents were male, and 56.5 percent were female. Most of the respondents fell in the age group between 18 and 30.

Instrumentation

Table 3 provides definitions of the constructs and key related literature. As reported in Appendices A and C, we developed measures of reinforced and varied use based on prior literature summarized in Table 1. Items of reinforced use capture three aspects: routine use, regular use, and efficient use. Items of varied use reflect three aspects: extended use, innovative use, and the synthesized perspective. We first

Table 2. Sample Demographics

	Option	*N*	Percentage (%)
Gender	Male	306	43.5
	Female	397	56.5
Age	<18	3	0.4
	>18 and ≤25	284	40.4
	>25 and ≤30	330	46.9
	>31 and ≤35	66	9.4
	>36 and ≤40	15	2.1
	>40	5	0.7
Education	High school or below	69	9.8
	Two-year college	185	26.3
	Four-year college	417	59.3
	Graduate school or above	32	4.6
Occupation	Student	158	22.5
	Employed	490	69.7
	Unemployed	39	5.5
	Other	16	2.3
Average frequency of use	At least once per day	538	76.5
	4–5 days per week	83	11.8
	2–3 days per week	60	8.5
	Once per week	14	2.0
	Less than once per week	8	1.1
Marital status	Single	295	42.0
	Just in love	174	24.8
	Married	234	33.3

Table 3. Definitions of Constructs

Construct	Operational Definition	References
Social Identity (SI)	The strength of perceived connection to a community's character or purpose on a social media site.	Prentice et al. [91]; Ren et al. [96]; Sassenberg [101]
Relational Identity (RI)	The strength of relationships with individual members on a social media site.	Prentice et al. [91]; Ren et al. [96]; Sassenberg [101]
Reinforced Use (RIF)	The use of specific features of a social media site in a repetitive and reinforced way.	Bawa [15]; Saga and Zmud [100]
Varied Use (VRD)	The use of a social media site with diverse features or in a novel way.	Ahuja and Thatcher [2]; Bawa [15]
Inertia (INR)	A strong attachment to, and persistence of existing behavioral patterns to use a social media site (i.e., the status quo).	Polites and Karahanna [90]

validated the scales for reinforced and varied use in two preliminary studies. We then used the scales developed in the preliminary studies to measure the two constructs in the main study. We adapted scales from Prentice et al. [91], Sassenberg [101], and Ren et al. [96] to measure relational and social identities. The items for three dimensions of inertia were adapted from Polites and Karahanna [90].

We used backward translation where a researcher first translated the items into Chinese, then these items were back-translated into English by another researcher. Then the two English versions were compared to obtain the first Chinese version of the questionnaire. We further refined the Chinese questionnaire based on suggestions from several researchers and social media users. A pilot study was conducted prior to the formal large-scale survey to ensure the reliability and validity of the scale. We deployed an online version of our survey and posted its URL on a forum designed for communications among academic researchers. Subjects who had experience using social media were invited to respond to the questionnaire. At the end, 110 responses were collected for the pilot study. Analysis of the data showed that Cronbach's alphas were all above 0.7, which implied a strong internal consistency of the constructs. Minor revisions to the questionnaire were made based on feedback from the respondents of the pilot study. The final scales are presented in Appendix C. All items were measured using seven-point Likert scales ranging from strongly disagree to strongly agree.

Data Analysis and Results

We analyzed the data using partial least squares (PLS), a component-based structural equation modeling technique. PLS has advantages over covariance-based structural equation modeling techniques such as Amos or LISREL because it maximizes the

explained variances in the outcome variables [43], can handle formative constructs [29], and is free of strict assumptions regarding the population or the measurement scales [47]. We used SmartPLS 2.0 to evaluate the measurement and the structural models.

Measurement Model Test

We conducted additional reliability and validity analyses of the measurement model, and the scale properties are summarized in Table 4. All Cronbach's alpha values and composite reliabilities (CRs) were above 0.7, indicating that the scales exhibited high reliability [83]. Confirmatory factor analysis results revealed that the items' standardized loadings were above 0.7. The average variance extracted (AVE) was above 0.5 for every construct, indicating a good convergent validity [40].

Discriminant validity was also supported because: (1) the square roots of the AVEs were all greater than their corresponding correlation coefficients with other constructs (see Table 4), and (2) item loadings on their own constructs were significantly higher than the cross-loadings on any other construct (see Table B1 in Appendix B) [43]. This suggests that the scales had good discriminant validity.

As self-reported data from a single source were used, common method bias (CMB) might exist. First, we assessed the CMB using Harman's single-factor test [88] and the common method variance factor test [89]. Second, following Liang et al. [68], we added to the PLS model a common method factor whose indicators consisted of all indicators of the principal constructs, then we computed each indicator's variance explained by the principal constructs and by the method. As shown in Table D1 in Appendix D, the results demonstrated that the method is unlikely to be a serious concern in this study.

Structural Model Test

We ran a bootstrap analysis with 5,000 resamples to assess the structural model [29]. Because inertia is conceptualized as a second-order aggregate construct, we generated a factor score for each of its first-order dimensions and used it as a formative measure of the second-order aggregate construct [18, 29]. We tested all constructs in the model for multicollinearity. Variance inflation factor (VIF) values for the formative dimensions of inertia ranged from 1.2 to 1.6, well below the threshold of 3.3 [37, 87]. Thus, there was no serious concern about multicollinearity in the data. Table B2 presents the weights of the PLS structural model using the formative inertia score, whereas Table B3 presents the interconstruct correlations of the PLS structural model. All three dimensions of inertia had significant weights, indicating that all of them were integral parts of the construct.

The results of the structural model test are summarized in Figure 2 and Table 5. First, social identity had significant influences on both reinforced use and varied use, thus the results supported H1a and H1b. Second, relational identity had significant impacts on both reinforced use and varied use, thus supporting H2a and H2b.

Table 4. Descriptive Statistics and Inter-Construct Correlations from PLS

Constructs	Mean	SD	Cronbach'sα	CR	AVE	IBA	IBB	ICB	RI	SI	RIF	VRD
IBA	5.20	1.20	0.886	0.946	0.897	0.95						
IBB	5.18	1.15	0.840	0.903	0.756	0.43	0.87					
ICB	4.55	1.30	0.913	0.945	0.850	0.23	0.39	0.92				
RI	5.45	1.19	0.902	0.932	0.773	0.37	0.35	0.13	0.88			
SI	5.05	1.10	0.877	0.915	0.730	0.44	0.32	0.14	0.64	0.85		
RIF	5.68	1.02	0.868	0.919	0.791	0.43	0.37	0.15	0.52	0.43	0.89	
VRD	5.14	1.12	0.870	0.920	0.794	0.24	0.29	0.10	0.31	0.39	0.37	0.89

Notes: RI = Relational Identity, SI = Social Identity, RIF = Reinforced Use, VRD = Varied Use, IBA = Affective-Based Inertia, IBB = Behavior-Based Inertia, ICB = Cognitive-Based Inertia. Shaded diagonal elements represent the square roots of the AVEs.

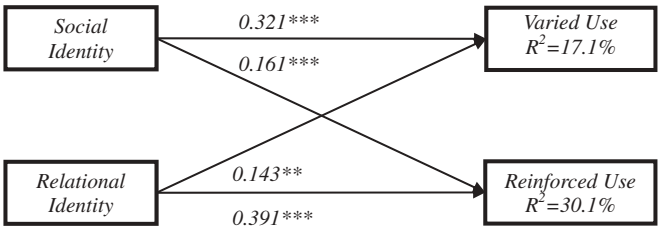

Figure 2. Data Analysis Results (Completely Standardized Solutions)
*p <0.05; **p < 0.01; ***p < 0.001; n.s.: nonsignificant).

Table 5. PLS Results

		Usage behavior	
Category	Construct	RIF	VRD
Social Self-Identity	RI	0.391***	0.143**
	SI	0.161***	0.321***
Control Variables	AGE	0.042	–0.006
	EDU	–0.048	–0.080*
	FRE	–0.040	0.027
	GDR	0.089*	–0.011
	JOB	–0.069	–0.056
	TME	0.043	–0.070+
	STS	–0.010	0.002
R^2		30.1%	17.1%

+ p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.
Notes: RI = Relational Identity, SI = Social Identity, RIF = Reinforced Use, VRD = Varied Use, GEN = gender, AGE = Age, FRE = Frequency, TME = Time, JOB = Job, STS = Status, EDU = Education. Standardized path coefficients are reported here.

We also examined the effects of seven control variables on the research variables and found that 4 out of 14 paths were significant. Reinforced use was higher among females than males. Varied use was lower among more educated users than less educated ones. These results suggest that user characteristics are important considerations in social media. The exact roles of individual differences on reinforced use and varied use remain an interesting question for future research.

Results of Path Comparison Tests

Similar to Li et al. [67], we followed the path coefficient comparison method proposed by Cohen et al. [32] to test the hypotheses. The results are summarized in Table 6. Social identity and relational identity differ in their effects on usage behavior. First, social identity had a significantly higher positive effect on varied use

Table 6. Hypothesis Testing Results Using PLS

	Path Coefficient or Comparison	*t*-statistic	Hypothesis supported (Y/N)
H1a	$\beta_{SI \rightarrow VRD} = 0.321$	6.913***	Y
H1b	$\beta_{SI \rightarrow RIF} = 0.161$	3.419***	Y
H2a	$\beta_{RI \rightarrow VRD} = 0.143$	2.786**	Y
H2b	$\beta_{RI \rightarrow RIF} = 0.391$	8.063***	Y
H3a	$\beta_{SI \rightarrow VRD}$ (0.321) > $\beta_{RI \rightarrow VRD}$ (0.143)	2.336**	Y
H3b	$\beta_{RI \rightarrow RIF}$ (0.391) > $\beta_{SI \rightarrow RIF}$ (0.161)	3.273***	Y

+ $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests, path comparisons used one-tailed tests).
Notes: RI = Relational Identity, SI = Social Identity, RIF = Reinforced Use, VRD = Varied Use, GEN = gender, AGE = Age, FRE = Frequency, TME = Time, JOB = Job, STS = Status, EDU = Education.

than relational identity, thus the results supported H3a. Second, relational identity had a stronger effect on reinforced use than social identity, Thus, H3b was supported.

Results of Moderation Tests

We followed the steps proposed by Aiken and West [3] to examine the moderation hypotheses. Tables 7 and 8 report the main and interaction effects. Inertia negatively moderated the positive effect of social identity on reinforced use, but it did not significantly moderate the positive effect of relational identity on reinforced use. Hence, H4a was supported, while H4b was not. Inertia weakly moderated the positive effect of social identity on varied use, but it did not significantly moderate the positive effect of relational identity on varied use. Hence, H5a was weakly supported, while H5b was not.

Post Hoc Analysis Results

We further examined the differential impacts of each social self-identity (i.e., social identity and relational identity) on reinforced and varied use. The results in Table 9 suggest that social identity's impact on varied use was stronger than its impact on reinforced use, whereas the case for relational identity was the opposite.

Discussion

Interpretation of Results

Our research reveals important insights for conceptualizing usage behaviors in social media and the extent to which social self-identity (i.e., social identity and relational identity) influence community members' reinforced use and varied use.

Table 7. Moderation Results of RIF

	Model 1	Model 2	Model 3
Control variables			
Age	0.094*	0.034	0.038
Education	–0.004	–0.028	–0.037
Frequency	–0.204***	–0.021	–0.001
Gender	0.095**	0.076*	0.073*
Job	–0.073	–0.065*	–0.070*
Length	0.121***	0.028	0.025
Status	0.047	0.003	0.009
Main effects			
RI		0.353***	0.325***
SI		0.105*	0.095*
INR		0.220***	0.206***
Interaction effects			
RI*INR			–0.058
SI*INR			–0.139**
R^2	8.90%	34%	37.20%

+ $p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
Notes: RI = Relational Identity, SI = Social Identity, RIF = Reinforced Use, VRD = Varied Use, INR = Inertia, GEN = Gender, AGE = Age, FRE = Frequency, TME = Time, JOB = Job, STS = Status, EDU = Education. One-tailed test was performed as directional moderation effects were hypothesized. Standardized path coefficients are reported here.

First, our results show that social and relational identities have common and asymmetrical direct effects on reinforced and varied use in social media. Both identities positively affect the two usage behaviors (H1a, H1b, H2a, and H2b). However, social identity has a stronger direct impact on varied use than relational identity (H3a), while relational identity exerts a stronger direct impact on reinforced use than social identity (H3b). Hence, social identity enhances variety-seeking behavior more, while relational identity facilitates more reinforcement-oriented behavior. These findings are consistent with results from organizational behavior research where different social relations have distinctive tendencies on exploration and exploitation at the individual level [98]. Contrary to Li et al. [67], we found varied use to be lower among those who are more educated. Although more educated members are more capable of variety seeking [93, 111], they might have less time and exert less effort for varied use. Future research can further explore this issue to identify the reasons behind our observed results.

Second, of all the findings, the most surprising is the inconsistent moderation effects of inertia. Our results revealed that inertia negatively moderates the impacts of social identity on reinforced use (H4a) and varied use (H5a), but it does not change the impact of relational identity on reinforced use (H4b) or varied use (H5b). That is, when an individual's inertia is high, social identity plays a less important

Table 8. Moderation Results of VRD

	Model 1	Model 2	Model 3
Control variables			
Age	0.056	–0.014	–0.013
Education	–0.026	–0.070*	–0.072*
Frequency	–0.090*	0.043	0.049
Gender	–0.010	–0.023	–0.023
Job	–0.068	–0.052	–0.053
Length	–0.024	–0.079*	–0.079*
Status	0.043	0.011	0.013
Main effects			
RI		0.114*	0.107*
SI		0.272***	0.268***
INR		0.162***	0.156***
Interaction effects			
RI*INR			–0.018
SI*INR			–0.044+
R^2	1.60%	19%	19.7%

+ $p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
Notes: RI = Relational Identity, SI = Social Identity, RIF = Reinforced Use, VRD = Varied Use, INR = Inertia, GEN = Gender, AGE = Age, FRE = Frequency, TME = Time, JOB = Job, STS = Status, EDU = Education. One-tailed test was performed as directional moderation effects were hypothesized. Standardized path coefficients are reported here.

Table 9. Post Hoc Analysis Results

IV	Path	*t*-statistic	Conclusion
SI	$\beta_{SI \rightarrow VRD}$ (0.321) > $\beta_{SI \rightarrow RIF}$ (0.161)	3.573***	$\beta_{SI \rightarrow VRD} > \beta_{SI \rightarrow RIF}$
IB	$\beta_{IB \rightarrow RIF}$ (0.391) > $\beta_{IB \rightarrow VRD}$ (0.143)	5.253***	$\beta_{IB \rightarrow RIF} > \beta_{IB \rightarrow VRD}$

+ p <0.1; * p<0.05;** p<0.01; and *** p<0.001.
Notes: IV: independent variable. One-tailed tests were performed as directional differences were hypothesized.

role in determining whether she will reinforce and vary her social media use. However, the impacts of relational identity on reinforced use and varied use remain the same irrespective of a person's level of inertia. We offer two possible explanations for this difference. One possibility is that social identity and inertia are mutually exclusive mechanisms in determining reinforcement-oriented and variety-seeking-oriented social media use, while relational identity and inertia are parallel mechanisms in contributing to reinforced and varied social media use. Social identity is inherently variable, fluid, context-dependent, and easier to deteriorate [124], and it is in conflict with inertia. In contrast, relational identity is often slower to deteriorate

and is accompanied by inertia. It involves relational investments for repeated, one-on-one interactions and self-disclosure in establishing and maintaining the relational identity. This will lead to psychological dependence on a relationship partner [108] and exerts greater inertia favoring relationship continuance [109]. The other possibility is that our social networking site may strongly foster friendship. Most people join WeChat because they want to make or maintain friends, while few have an interest in finding groups with common interests or goals. Previous research indicates that users of social networking sites are more motivated to engage in interpersonal interaction than users of other types of social media [42]. Therefore, members with high relational identity have relatively high motivation to use this social media site than those with high social identity, indicating that high relational identity alleviates the impacts of inertia. Future research can further examine the mechanism through which inertia moderates the impact of the two types of social self-identity on social media use.

Theoretical Contributions

Our study makes three contributions to the literature on social media. First, it suggests that community members engage in multiple usage behaviors. Based on a feature-level analysis of IS, we distinguish community members' usage behavior in social media at a finer granularity, which enables us to make important conceptual distinctions between reinforced use and varied use in terms of their reinforcement or variety-seeking orientation. The exploitation–exploration framework is also useful to enrich our understanding of two different categories of individual-level usage behaviors to enhance business strategies. We also extend the validity of measures of reinforced use and varied use from organizational and marketing contexts to social media, and from the western culture to the eastern one [2, 45].

Second, our research expands our understanding of the relationships between social self-identity (i.e., social identity and relational identity) and IS usage behavior in the postacceptance stage. With the enriched conceptualization of reinforced use and varied use, we identify the common and differential influences of relational identity and social identity on two postacceptance behaviors. We found that social identity is more oriented toward variety seeking, while relational identity is more oriented toward reinforcement. This research answers the call of Ren et al. [96] to place more emphasis on investigating the effects of identity variables in more types of online communities.

Third, we contribute to IS research by explicitly conceptualizing and measuring individual-level inertia in the postadoption stage in the social media context. We further extend the biasing effect of inertia on users' choice about adopting newly introduced system features and demonstrate the impacts of inertia on postadoption IS usage behaviors. Moreover, our finding regarding the differential moderating effects of inertia on social identity and relational identity help improve our understanding of how inertia lessens the impacts of social identity on reinforced use and varied use.

Practical Implications

The results of our study also provide social media service providers with rich insights on improving users' behaviors. First, service providers should recognize that community members can either use social media in a repetitive and reinforced manner or apply social media's features in a novel way. These usage behaviors differ in the users' orientation, and are thus critical for executing two major business strategies: exploitation and exploration to maintain the stability and growth of online communities. Service providers should pay more attention to the actual usage behavior rather than only considering the quantity of usage (e.g., time and frequency) [19, 52].

Second, service providers should understand that members' social self-identity can simultaneously promote reinforced use and varied use. Thus, service providers who want to promote new features and varied use should step up their community-building efforts to enhance communication within groups or individual members. For example, they can foster social identity through guiding people to form a group, providing information about the group, highlighting group homogeneity and inter-group competition, and facilitating familiarity with the group through repeated exposure. Service providers can assist in establishing interpersonal relationships by providing information about, highlighting interpersonal similarities with, facilitating repeated exposure to, and enabling communication with individual members [96].

Third, although relational identity and social identity have common effects on reinforced and varied use, service providers should consider their differential effects on usage behavior. Social identity facilitates stronger varied use than relational identity, while relational identity facilitates stronger reinforced use than social identity. Thus, services providers should pay more attention to the variety-seeking needs of members with strong social identity than those with strong relational identity, and provide constant system upgrades to satisfy their need for diversity and innovativeness.

Finally, the moderating effects of inertia on the impacts of social identity and relational identity on reinforced use and varied use also shed light for services providers. Because inertia is a stable individual status, services providers who want their members to leverage social media through reinforced and varied use should carefully consider the double swords of inertia. On one hand, inertia built through users' habits and switching costs [90] would lead to more reinforced use and website traffic. On the other hand, users with stronger social identity are less likely to engage in reinforced and varied use when they are in a state of status quo inertia.

Limitations

Our research has certain limitations. First, this study focuses on one type of social media. Our findings may be generalized to other socially oriented communities such as friendship groups or social networking sites where members participate to form

intimate relationships, but may not generalize to communities focused on a specific topic based on demographics, hobby or common interests, and a profession. IS researchers replicate this study in other types of social media. Second, our results might be specific to China. Future research could extend our model to other geographical areas. Third, we theorize that reinforced use and varied use can coexist in social media, and they differ in their reinforcement or variety-seeking orientation. Future research can examine other measures of reinforced and varied use. Fourth, future research can examine the three dimensions of self-identity (i.e., individual identity, relational identity, and social identity) and compare their impacts on social media usage simultaneously. Fifth, as an initial investigation into reinforced and varied use in social media, this study explores a limited set of variables. About 30 percent of the variance of reinforced use and 17 percent of the variance of varied use were explained by our model, indicating that other factors not included in our model also affected users' postadoption behavior. Future research can explore additional antecedents of reinforced and varied use in social media.

Conclusions

Our study theorizes two important postadoption usage behaviors: reinforced use and varied use. Reinforced use and varied use differ in their reinforcement or variety-seeking orientation, which is important for firms in achieving both exploitation and exploration business strategies. Drawing on identity theories, we assess the common and differential effects of two social self-identities (social identity and relational identity) on two social media usage behaviors (reinforced use and varied use) through the moderation effects of inertia. The results of our questionnaire survey reveal that relational identity and social identity have significant common and differential effects on varied use and reinforced use. High inertia suppresses the positive effects of social identity on reinforced and varied use. This study represents a significant advance in our theoretical understanding of the effects of social self-identity on social media usage behavior. These findings help service providers identify strategies to motivate users to achieve exploitation and exploration business goals.

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Supplemental File

Supplemental data for this article can be accessed on the publisher's website at 10.1080/07421222.2017.1296747

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